

- Q. Does cigarette smoking cause cancer?
- Q. What is it in cigarette smoke that causes cancer?
- Q. Why doesn't the tobacco industry admit that smoking causes cancer and other diseases?
- A. The published association between cigarette smoking and various diseases is only a statistical correlation; it is not a proven causative relationship. Exposure to cigarette smoke has never been shown to cause any disease. No constituent of cigarette smoke has been shown to cause any disease in the quantities found in cigarette smoke.

There are many inconsistencies and unanswered questions in the area of smoking and health which do not support the contention that smoking causes diseases.

- Q. What if enough proof is found linking smoking to disease to outlaw the sale of cigarettes?
- A. P.M. is confident that when, and if, any ingredient in cigarette smoke is identified as being injurious to health, that ingredient can be removed.
- Q. What research is P.M. doing on the relationship between cigarette smoking and cancer (respiratory diseases, heart diseases)?
- Q. Does P.M. support cancer (respiratory disease, heart disease) research by other groups?
- A. P.M., itself, does not do any research on possible relationships between cigarette smoking and diseases.

P.M. is a participant in a \$2.8 million grant to Harvard Medical School for research on the relationships, if any, between cigarette smoking and pulmonary and cardiovascular diseases.

P.M. is a participant in a \$2 million research grant to Washington University of St. Louis for the study of cancer immunology in man. The U.S. Tobacco Industry, as a whole, expends more funds in support of scientific and medical research in the area of cigarette smoking and health than the Federal government or all voluntary health agencies in the U.S. combined.

Q. How many R&D employees smoke?

A. P.M. has no policy whatsoever with regard to employees smoking habits or opinions about smoking. The percent of people in R&D who smoke is about the same as that for those in the same age group in the general population.

Q. What is P.M. doing in anticipation of the legalization of marijuana?

A. P.M. has done and is doing nothing in preparation for the possible legalization of marijuana.

Q. Does P.M. use reconstituted tobacco?

A. P.M. uses reconstituted tobacco as do all tobacco companies. This is one of R&D's major contributions and one of the ways in which the price of cigarettes (before taxes) has been held down. In addition, reconstitution improves the physical and flavor characteristics of tobacco.

Q. Why do people smoke?

A. People have smoked cigarettes or their equivalent in many cultures all over the world for hundreds of years. Smoking satisfies fundamental human urges and needs. It provides enjoyment and helps people to cope with a wide range of situations and emotions.

Q. Is it difficult to get new employees to work for a tobacco company?

A. It is not at all difficult to get people to work for P.M. P.M. offers jobs in a wide range of disciplines, good opportunities, and security in a diversified company which has grown at a rate of more than 15% per year for the last ten years.

Q. How does the quantity and quality of P.M. R&D compare with that of other tobacco companies.

A. It is difficult to make a comparison. Tobacco companies, as do those in other industries, try to keep their activities somewhat confidential. In the areas in which it specializes, P.M. is probably the leader among domestic companies. Some

companies concentrate more heavily on other areas such as tobacco agriculture and manufacturing engineering.

Q. What is the R&D budget?

A. In the tobacco industry as in most U.S. industries the R&D budget is on the order of 1% of total revenues.

Q. How many R&D employees, professional, Ph.D.'s are there?

A. Approximately 400, 250, 50.

Q. How many square feet of building space are there in R&D?

A. Approximately 250,000.

Q. What disciplines are represented in R&D?

A. We have a wide range of scientific and technical skills with special emphasis in Chemistry, Chemical Engineering, Physics, Psychology, and Mechanical Engineering.

Q. How good is the R&D library?

A. The library is a specialized library which covers the fields of Chemistry, Physics, and Biology as related to our work. Copies of material can be made and provided in nearly any form. The library is a member of a regional association and can obtain information on virtually any subject within three days.

Q. How many patents and published papers does R&D produce?

A. In the last five years 164 papers and 102 patents.

Q. What is the racial mix in R&D?

A. Approximately 10% of the R&D employees are from minority races - the same as in the general population.

Q. What non-tobacco substances are added to cigarettes - are they safe?

A. The only non-tobacco substances added to tobacco in cigarettes are natural products put in as flavorants and we use only those cleared as safe for food additives.

- Q. How does P.M. rank in the Tobacco Industry?
- Q. How many cigarettes does P.M. sell?
- A. P.M. is the second largest domestic manufacturer of cigarettes with 1972 sales of approximately 110 billion cigarettes and 21% of the cigarette market. World-wide sales for Philip Morris are more than 220 billion cigarettes.

P.M.'s Marlboro is the largest selling cigarette brand in the world and second in the U.S.

- Q. What effect is the pack warning having?
- Q. What effect is the broadcast ban having?
- Q. What effect is the warning in ads having?
- A. Industry sales have increased at an average rate of 1.1% per year since 1963 and at an average rate of 2.8% since 1970 when the advertising ban started.
- Q. What is the price breakdown of a pack of cigarettes?
- Q. How much of the cost of a pack of cigarettes is taxes?
- A. The variation from one type of cigarette to another and from one state to another is large. The average cost to a tobacco company to make and deliver each pack of cigarettes to a wholesaler is about 12 cents. In addition, the wholesaler adds 8 cents Federal tax per pack and a State tax of 12 cents. These taxes are regressive and therefore the cigarette tax represents a disproportionate tax on lower income people.
- Q. What products and P.M. divisions or companies does this R&D facility serve?
- A. This location deals almost exclusively with tobacco and cigarette R&D for P.M. USA.
- Q. Where is R&D for other products and divisions performed?
- A. Each separate company and division has its own R&D department. There is some communication and cooperation between this location and the R&D departments of International Tobacco subsidiaries.

- Q. What new brands of cigarettes are being worked on?
- Q. What new types of filters are being worked on?
- Q. Is work being done on tobacco substitutes?
- A. Because of government pressures and corresponding market and consumer trends, work is being done toward lowering tar and nicotine deliveries while maintaining taste, satisfaction, and the basic nature of cigarette smoking. This is being done by modifications of the tobacco, the filter, and by controlling the physical parameters of the cigarette. We do not contemplate replacing tobacco with non-tobacco material but are doing exploratory work to be prepared for any eventuality.
- Q. What work is being done on substitutes for cigarette smoking itself, or in an attempt to eventually get out of the cigarette business?
- A. None. P.M. is confident in the future of the cigarette business both domestically and internationally as is evidenced by the construction at this location of what will be the world's largest cigarette making complex.
- Q. What has R&D done on products other than cigarettes and tobacco?
- Q. What has R&D developed outside product areas of major interest?
- A. The work at this location is only directed toward cigarettes and tobacco; however, discoveries are occasionally made which have applications outside that area. For example, a gas sensor developed by P.M. R&D received an award as one of the major industrial inventions of 1972. Negotiations are now being carried out to make that invention available to companies interested in it.
- Q. What kinds of basic research are done?
- A. Physics of aerosol filtration and smoke formation, chemistry of smoke composition, and smoker psychology.
- Q. What are the major objectives of R&D?
- A. Control of smoke composition, cost reduction, improvement of product appeal, understanding of the product and the consumer.

Q. How has R&D contributed to P.M. growth and success?

Q. What contributions has R&D made to the improvement of cigarettes?

A. R&D has developed a number of processes enabling more complete utilization of tobacco and otherwise reduction of product cost. R&D has developed methods of controlling the amount and composition of smoke delivered by cigarettes.

R&D has developed new and modified products with greater appeal.

R&D has been an industry leader in measurement of smoke and composition. R&D has been an industry leader in understanding the consumer and his response to the cigarette.

Q. If government price supports and acreage allotments were dropped what would be the effects?

A. If it occurred then tobacco in the marketplace would be subject to supply and demand with possible effects of improved efficiency in tobacco cultivation, decreased tobacco prices or at least a less rapid growth in prices. Quantity and quality of available tobacco would improve, and the tobacco crop would contribute favorably to the balance of payments.

Q. What is being done to control pollution from this location - R&D and new factory?

A. While cigarette manufacturing generates little environmental pollution, controls far in excess of required standards will be employed. More than \$5 million will be spent on the most advanced and effective sanitation and pollution control equipment available.

Q. How old is R&D at P.M.?

1952

A. P.M. has had a separate R&D facility at this location since 1952.

Q. Does R&D test P.M. cigarettes?

Q. Does R&D test competitors cigarettes?

- Q. How do P.M. R&D tar and nicotine numbers compare with FTC numbers?
- A. R&D tests P.M. cigarettes to be sure that quality and consistency are being maintained; it tests competitors cigarettes as an intelligence function. FTC and P.M. tar and nicotine numbers are very similar. The FTC procedures were drawn primarily from P.M. experience.
- Q. What does the new tower mean to R&D?
- A. For the first time in five years all P.M. USA tobacco and cigarette R&D will be at one location. There will be improved interaction and communication among R&D personnel and for a number of years R&D will have adequate facilities to keep stride with the growth of the company.
- Q. What does R&D see as the major research problems in the tobacco industry?
- A. A continuous flow of appealing new products, the smoking and health controversy, cost reduction.
- Q. How is R&D organized?
- A. There are three major sections - Research, Development, Technical and Administrative Services. The Research Division is divided along disciplinary lines - Chemical and Biological Research, Physical Research, Analytical Chemistry. The Development Division is divided functionally - Cigarette Development, Filter Development, Tobacco Utilization, Flavors, etc. Technical and Administrative Services covers specialized support groups such as subjective testing, library, patents, economic studies, etc.
- Q. What is R&D's position within the company organization?
- A. The head of R&D is a Vice-President of P.M. USA and P.M. Inc. The Research and Development Department is located in the Operations Department of Philip Morris U.S.A. Therefore, its at the center of the team responsible for providing the products Philip Morris sells.

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- Q. Where do product ideas come from?
- Q. How are products developed, tested, marketed?
- Q. How long does it take to go from an idea to a product in the market?
- A. Product ideas come from R&D, company management, and other sources. Many are stimulated by consumer and market research. Product prototypes are tested analytically and subjectively at every stage of development using internal taste panels, mailout panels, and regional market tests. Depending on the technological complexity of the product involved, the entire process could take from several months to several years.
- Q. What major instrumentation does R&D have?
- A. Xerox Sigma 5 Computer
- Spectrometers
 - 60 MHz Nuclear Magnetic Resonance...
 - Laser Raman...
 - Analytical Mass...
 - High Resolution Mass...
 - Quadrupole Mass.
 - Chemical Ionization Mass...
 - X-Ray Diffraction...
 - Spectrophotometers
 - Infrared...
 - Ultraviolet...
 - Flourescence...
 - Atomic Absorption...
 - Electron Microscopes
 - Transmission...
 - Scanning...
 - Analyzers
 - Differential Thermal...
 - Thermogravimetric...
 - Auto...
 - Robot Chemist
 - Scintillation Counter
 - Chromatographs
 - Gas...
 - High Resolution Liquid...

Q. What do psychologists do at R&D?

A. Run consumer product testing facilities. Study why people smoke, how people smoke, what psychological effects smoking has, and what psycho-physiological effects smoking has.